

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims**

1-48. (Cancelled)

49. (Previously Presented) An isolated antibody or fragment thereof that specifically binds to a protein consisting of amino acid residues 31 to 300 of SEQ ID NO:2.

50. (Previously Presented) The antibody or fragment thereof of claim 49 that binds a protein consisting of a fragment of a protein consisting of amino acids residues 31 to 300 of SEQ ID NO:2 wherein said fragment is at least 30 amino acids in length.

51. (Previously Presented) The antibody or fragment thereof of claim 49 that binds an epitope within the N-terminal 142 amino acids of the protein of SEQ ID NO:4.

52. (Previously Presented) The antibody or fragment thereof of claim 49 wherein said protein bound by said antibody or fragment thereof is glycosylated.

53. (Previously Presented) The antibody or fragment thereof of claim 49 which is a polyclonal antibody.

54. (Previously Presented) The antibody or fragment thereof of claim 49 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a single chain antibody; and
- (c) a Fab fragment.

55. (Previously Presented) The antibody or fragment thereof of claim 49 which is labeled.

56. (Previously Presented) The antibody or fragment thereof of claim 55 which is labeled with a label selected from the group consisting of:

- (a) an enzyme;
- (b) a fluorescent label;
- (c) a luminescent label; and
- (d) a bioluminescent label.

57. (Previously Presented) The antibody or fragment thereof of claim 49 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

58. (Previously Presented) The antibody or fragment thereof of claim 49 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

59. (Previously Presented) An isolated cell that produces the antibody or fragment thereof of claim 49.

60. (Previously Presented) A hybridoma that produces the antibody or fragment thereof of claim 49.

61. (Previously Presented) A method of detecting TNFR-6 in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 49; and
- (b) detecting the TNFR-6 protein in the biological sample.

62. (Previously Presented) The method of claim 61 wherein the antibody or fragment thereof is a polyclonal antibody.

63. (Previously Presented) An isolated antibody or fragment thereof obtained from an animal that has been immunized with a protein selected from the group consisting of:

(a) a protein comprising the amino acid sequence of amino acid residues 31 to 300 of SEQ ID NO:2;

(b) a protein comprising the amino acid sequence of amino acid residues 31 to 283 of SEQ ID NO:2;

(c) a protein comprising the amino acid sequence of at least 30 contiguous amino acid residues of SEQ ID NO:2; and

(d) a protein comprising the amino acid sequence of at least 50 contiguous amino acid residues of SEQ ID NO:2;

wherein said antibody or fragment thereof specifically binds to said amino acid sequence.

64. (Previously Presented) The antibody or fragment thereof of claim 63 obtained from an animal immunized with protein (a).

65. (Previously Presented) The antibody or fragment thereof of claim 63 obtained from an animal immunized with protein (b).

66. (Previously Presented) The antibody or fragment thereof of claim 63 obtained from an animal immunized with protein (c).

67. (Previously Presented) The antibody or fragment thereof of claim 63 obtained from an animal immunized with protein (d).

68. (Previously Presented) The antibody or fragment thereof of claim 63 which is a monoclonal antibody.

69. (Previously Presented) The antibody or fragment thereof of claim 63 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a polyclonal antibody;
- (c) a single chain antibody; and
- (d) a Fab fragment.

70. (Previously Presented) An isolated monoclonal antibody or fragment thereof that specifically binds to a protein consisting of amino acid residues 31 to 300 of SEQ ID NO:2.

71. (Previously Presented) The antibody or fragment thereof of claim 70 that binds a protein consisting of a fragment of a protein consisting of amino acids residues 31 to 300 of SEQ ID NO:2 wherein said fragment is at least 30 amino acids in length.

72. (Previously Presented) The antibody or fragment thereof of claim 70 that binds an epitope within the N-terminal 142 amino acids of the protein of SEQ ID NO:4.

73. (Previously Presented) The antibody or fragment thereof of claim 70 wherein said protein bound by said antibody or fragment thereof is glycosylated.

74. (Previously Presented) The antibody or fragment thereof of claim 70 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a single chain antibody; and
- (c) a Fab fragment.

75. (Previously Presented) The antibody or fragment thereof of claim 70 which is labeled.

76. (Previously Presented) The antibody or fragment thereof of claim 75 which is labeled with a label selected from the group consisting of:

- (a) an enzyme;
- (b) a fluorescent label;
- (c) a luminescent label; and
- (d) a bioluminescent label.

77. (Previously Presented) The antibody or fragment thereof of claim 70 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

78. (Previously Presented) The antibody or fragment thereof of claim 70 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

79. (Previously Presented) An isolated cell that produces the antibody or fragment thereof of claim 70.

80. (Previously Presented) A hybridoma that produces the antibody or fragment thereof of claim 70.

81. (Previously Presented) A method of detecting TNFR-6 in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 70; and
- (b) detecting the TNFR-6 in the biological sample.

82. (Previously Presented) An isolated antibody or fragment thereof that specifically binds to a protein consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810.

83. (Previously Presented) The antibody or fragment thereof of claim 82 that binds a protein consisting of a fragment of a protein consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810, wherein said fragment is at least 30 amino acids in length.

84. (Previously Presented) The antibody or fragment thereof of claim 82 that binds an epitope within the N-terminal 142 amino acids of the protein encoded by the cDNA contained in ATCC Deposit Number 97809.

85. (Previously Presented) The antibody or fragment thereof of claim 82 wherein said protein bound by said antibody or fragment thereof is glycosylated.

86. (Previously Presented) The antibody or fragment thereof of claim 82 which is a polyclonal antibody.

87. (Previously Presented) The antibody or fragment thereof of claim 82 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a single chain antibody; and
- (c) a Fab fragment.

88. (Previously Presented) The antibody or fragment thereof of claim 82 which is labeled.

89. (Previously Presented) The antibody or fragment thereof of claim 88 which is labeled with a label selected from the group consisting of:

- (a) an enzyme;
- (b) a fluorescent label;
- (c) a luminescent label; and
- (d) a bioluminescent label.

90. (Previously Presented) The antibody or fragment thereof of claim 82 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

91. (Previously Presented) The antibody or fragment thereof of claim 82 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

92. (Previously Presented) An isolated cell that produces the antibody or fragment thereof of claim 82.

93. (Previously Presented) A hybridoma that produces the antibody or fragment thereof of claim 82.

94. (Previously Presented) A method of detecting TNFR-6 protein in a biological sample comprising:

(a) contacting the biological sample with the antibody or fragment thereof of claim 82; and

(b) detecting the TNFR-6 protein in the biological sample.

95. (Previously Presented) The method of claim 94 wherein the antibody or fragment thereof is a polyclonal antibody.

96. (Previously Presented) An isolated antibody or fragment thereof obtained from an animal that has been immunized with a protein selected from the group consisting of:

(a) a protein comprising the amino acid sequence of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810;

(b) a protein comprising the amino acid sequence of the extracellular soluble domain of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810;

(c) a protein comprising the amino acid sequence of at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810; and

(d) a protein comprising the amino acid sequence of at least 50 contiguous amino acid residues the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810;

wherein said antibody or fragment thereof specifically binds to said amino acid sequence.

97. (Previously Presented) The antibody or fragment thereof of claim 96 obtained from an animal immunized with protein (a).

98. (Previously Presented) The antibody or fragment thereof of claim 96 obtained from an animal immunized with protein (b).

99. (Previously Presented) The antibody or fragment thereof of claim 96 obtained from an animal immunized with protein (c).

100. (Previously Presented) The antibody or fragment thereof of claim 96 obtained from an animal immunized with protein (d).

101. (Previously Presented) The antibody or fragment thereof of claim 96 which is a monoclonal antibody.



102. (Previously Presented) The antibody or fragment thereof of claim 96 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a polyclonal antibody;
- (c) a single chain antibody; and
- (d) a Fab fragment.

103. (Previously Presented) An isolated monoclonal antibody or fragment thereof that specifically binds to a protein consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810.

104. (Previously Presented) The antibody or fragment thereof of claim 103 that binds a protein consisting of a fragment of a protein consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 97810, wherein said fragment is at least 30 amino acids in length.

105. (Previously Presented) The antibody or fragment thereof of claim 103 that binds an epitope within the N-terminal 142 amino acids of the protein encoded by the cDNA contained in ATCC Deposit Number 97809.

106. (Previously Presented) The antibody or fragment thereof of claim 103 wherein said protein bound by said antibody or fragment thereof is glycosylated.

107. (Previously Presented) The antibody or fragment thereof of claim 103 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a single chain antibody; and
- (c) a Fab fragment.

108. (Previously Presented) The antibody or fragment thereof of claim 103 which is labeled.

109. (Previously Presented) The antibody or fragment thereof of claim 108 which is labeled with a label selected from the group consisting of:

- (a) an enzyme;
- (b) a fluorescent label;
- (c) a luminescent label; and
- (d) a bioluminescent label.

110. (Previously Presented) The antibody or fragment thereof of claim 103 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

111. (Previously Presented) The antibody or fragment thereof of claim 103 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

112. (Previously Presented) An isolated cell that produces the antibody or fragment thereof of claim 103.

113. (Previously Presented) A hybridoma that produces the antibody or fragment thereof of claim 103.

114. (Previously Presented) A method of detecting TNFR-6 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 103; and
- (b) detecting the TNFR-6 protein in the biological sample.

115. (Previously Presented) An isolated antibody or fragment thereof that specifically binds a TNFR-6 protein purified from a cell culture wherein said TNFR-6 protein is encoded by a polynucleotide encoding amino acids 1 to 300 of SEQ ID NO:2 operably associated with a regulatory sequence that controls expression of said polynucleotide.

116. (Previously Presented) The antibody or fragment thereof of claim 115 that binds an epitope within the N-terminal 142 amino acids of the protein of SEQ ID NO:4.

117. (Previously Presented) The antibody or fragment thereof of claim 115 which is a monoclonal antibody.

118. (Previously Presented) The antibody or fragment thereof of claim 115 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a polyclonal antibody;
- (c) a single chain antibody; and
- (d) a Fab fragment.

119. (Previously Presented) The antibody or fragment thereof of claim 115 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

120. (Previously Presented) The antibody or fragment thereof of claim 115 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

121. (Previously Presented) An isolated cell that produces the antibody or fragment thereof of claim 115.

122. (Previously Presented) A hybridoma that produces the antibody or fragment thereof of claim 115.

123. (Previously Presented) A method of detecting TNFR-6 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 115; and
- (b) detecting the TNFR-6 protein in the biological sample.

124-137. (Cancelled)

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138. (Previously Presented) An isolated antibody or fragment thereof that specifically binds to a protein consisting of amino acid residues 31 to 300 of SEQ ID NO:2 wherein said antibody or fragment thereof decreases the binding of said protein to a TNF family ligand.

139. (Previously Presented) The antibody or fragment thereof of claim 138 wherein said TNF family ligand is Fas ligand.

140. (Cancelled)

141. (Previously Presented) The antibody of claim 138 which antagonizes TNFR-6 $\alpha$  mediated inhibition of apoptosis.

142. (Previously Presented) The antibody or fragment thereof of claim 138 which is polyclonal.

143. (Previously Presented) The antibody or fragment thereof of claim 138 which is monoclonal.

144. (Previously Presented) The antibody or fragment thereof of claim 138 which is chimeric.

145. (Previously Presented) The antibody or fragment thereof of claim 138 which is a Fab fragment or an F(ab')<sub>2</sub> fragment.

146. (Cancelled)

147. (Previously Presented) The antibody or fragment thereof of claim 138 wherein said antibody or fragment thereof is expressed in a recombinant host cell selected from the group consisting of a CHO cell, yeast cell and E. coli.